

REMARKS

Pending in this application are claims 1-4, 6, 8, and 10-17. Claims 5, 7 and 9 are cancelled.

Priority**Regarding 09/435,657**

The instant application is a divisional of patent application 09/435,657 which claimed the benefit of patent application 08/607,964 (now patent 5,983,068). Paragraph [001] was amended to clarify this point in an amendment sent on 08/22/2005 that included the necessary supporting documentation.

More specifically, the first paragraph of the 09/435,657 application states, "This is a continuation-in-part of U.S. Nonprovisional Application serial no. 08/607,964, entitled Photonic Home Area Network, filed February 29, 1996 to John Tomich, et al., which is incorporated by reference for all purposes."

Examiner stated that the instant application adds and claims additional disclosure not presented in the prior applications from which the instant application claims priority (09/435,657 and 08/607,964). For example, Examiner believes claim 7 and paragraph [067] both disclose subject matter that was not presented in the prior applications. Purely in the interest of expediting the prosecution of the instant invention, Applicant has removed portions of paragraph [0068] (Applicant believes this is the paragraph the Examiner was referring to as paragraph [0067] states "Second Embodiment").

As such, Applicant respectfully believes that the relationship between the instant invention and 09/435,657 should now be clear.

Regarding 08/607,964

The instant application is a divisional of patent application 09/435,657 which is a continuation-in-part of U.S. Nonprovisional Application serial no. 08/607,964. The subject matter that the Examiner thought to not be present has been removed as noted above.

As such, Applicant respectfully believes that the relationship between the instant invention and 08/607,964 should now be clear.

Claims35 USC § 102

Amitay:

Claims 1, 6, and 8 were rejected under 35 USC § 102(b) as being anticipated by Amitay (4,807,222).

The Examiner rejected claim 1 because Examiner believes Amitay disclosed a Regional Bus Interface Unit (RBIU) that the Examiner equated with the third circuit of claim 1 in the instant application.

Claim 1 has been amended to further clarify a wide-signal bandwidth multi-access channel comprising a plurality of units each of which is operably coupled to an asynchronous head-end communications circuit and a subsequent set of the units, wherein such coupling provides a ring network configuration that formats user data bandwidth segments into the transmit multiplexed photonic signals, wherein the user data bandwidth segments are at least one of:

television programming data;
audio programming data;
computer data; and
telephony service data.

The head-end communications circuit of the instant invention formats user data bandwidth segments into the transmit multiplexed photonic signals, wherein the user data bandwidth segments are at least one of: television programming data, audio programming data, computer data, and telephony service data.

The Examiner on page 4 of the Office Action states that Amitay discloses a head-end communications circuit (headend on the left side of Fig. 1, col. 3, lines 29-32). Applicant respectfully disagrees with the Examiner's assertion that Amitay discloses a head-end communications circuit. The "headend on the left side of Fig. 1" is a Frame Marker Generator 15 that "is located at the headend of bus 14 for dividing the time on bus 14 into equal frames of duration T, as shown in FIG. 4. The markers transmitted by Frame Marker Generator 15 at the beginning of each frame serve as a source of

synchronization for the entire network and consist of a periodic light modulated sequence of bits." As can be seen, Amitay's Frame Marker Generator 15 serves as a source of synchronization which is not similar to the head-end communications circuit of the instant invention which formats user data bandwidth segments into the transmit multiplexed photonic signals.

Further, the head-end communications circuit 20 of the instant invention is described as having a number of characteristics that are not disclosed by Amitay's RBIU. For example, the instant application discloses:

[0029] An intelligent head-end station 20 can "accumulate" outbound data from the homes delivered through signal path 58. The head-end station 20 delivers the accumulated outbound data in a cost effective manner in wide-bandwidth asynchronous transmissions, including, asynchronous transmissions mode ("ATM"), Internet Protocol (IP), and synchronous transmission mode formats. Use of these formats create a flexible interconnect of the HAN with the data network 12 by allowing variable transmission bandwidth rate structures. The HAN system is composed of a plurality of node stations 18 and the head-end communications circuit 20 arranged in a ring network.

[0030] The intelligent head-end station 20 can accommodate incoming data from the various data networks 12. The incoming data is time multiplexed data on the digital transmission carrier and modulated onto the optical signal path 58.

[0037] The television data segments, consisting of over about 100 to about 200 television channels, are transmitted to the home and then re-transmitted to the next home and so on until the TV signal format returns to the head-end equipment 20 where it is disregarded. To optimize bandwidth on the multi-access channel, 200 or 58, switched television channel equipment could be located at the Head-End 20 so as to provide specific television signals on customer demand.

[0039] Encoding algorithms are generated in the head-end equipment microcontroller 126 and are passed to each subscriber set-top box having authorized access to the premium channel. This encoding is automated with an update rate which is programmable by the user organization at the head-end station 20.

[0052] The head-end communications circuit 20 has an interface connectable to external communications data sources 12. For example, data is provided by a DBS television dish 102, a S & C Band satellite dish 104, a Ka Band LED Direct Space Communications link antenna 106 which feeds through a terminal box 107, a telephone cable 108 and a cable television cable 110. These sources are routed to the head-end communications circuit 20. The head-end circuit 20 converts these data sources into a high-speed digital data signal. This signal is conveyed through a transmit cable 26 and broadcast from a roof-top unit 22.

[0053] Referring to FIG. 7, shown is the head-end circuit 20 with a signal formatting circuit 120 for formatting the communications data sources into a multiplexed data signal 58. The signal formatting switch 120 takes the digitized television channels from numerous raw sources of single-way television such as DBS television 102 and S&C band satellite television 104 and selects a cross-section of channels and synchronizes their carriers for combination. The channels selected are a result of negotiations with communications service providers and the users of the photonic HAN 10. The synchronization switch 120 includes A/D devices internally where necessary to digitize an analog television channel.

Per the comments above, Applicant believes currently amended claim 1 is in condition for allowance and respectfully requests that it, as well as the claims that depend from it, be passed to allowance.

35 USC § 103

Claims 1-3 and 5-8 were rejected under 35 USC § 103(a) as being unpatentable by Shiода in view of Wu et al. ("High-speed self-healing ring architectures for future interoffice networks") with reference to Newton (Newton's Telecom Dictionary, 8th ed.).

The Examiner on page 5 of the Office Action states that Shioda does not expressly disclose the head-end communications circuit. Applicant agrees with this statement. The Examiner on page 6 of the Office Action states that Wu shows a head-end communications circuit because it is within the scope of the definition of head-end according to Newton.

Applicant respectfully disagrees that the combination of Shioda, Wu and Newton fully and expressly disclose a head-end communications circuit. However, purely in the interest of expediting the prosecution of the instant invention, Applicant has amended claim 1 to include the following limitation: an asynchronous head-end communications circuit. Support for this limitation can be found at least in paragraph [0029]. The Examiner, on page 6 of the Office Action, stated that, "Wu shows a head-end communications circuit with a HUB and corresponding ADM together in Fig.1." As can be seen in Wu, Fig. 1 describes an ISDN framework which is a type of synchronous communication. Further, Applicant has further amended claim 1 to include the following limitation: formats user data bandwidth segments into the transmit multiplexed photonic signals, wherein the user data bandwidth segments are at least one of: television programming data; audio programming data; computer data; and telephony service data. Support for this limitation can be found at least in paragraph [0010]. Neither Wu, nor any of the cited references, disclose such formatting of such user data bandwidth segments.

Still further, the head-end communications circuit of the instant invention is described as having a number of characteristics that are not disclosed by Wu or any of the cited references. For example, the instant application discloses:

[0029] An intelligent head-end station 20 can "accumulate" outbound data from the homes delivered through signal path 58. The head-end station 20 delivers the accumulated outbound data in a cost effective manner in wide-bandwidth asynchronous transmissions, including, asynchronous transmissions mode ("ATM"), Internet Protocol (IP), and synchronous transmission mode formats. Use of these formats create a flexible interconnect of the HAN with the data network 12 by allowing variable transmission bandwidth rate structures. The HAN system is composed of a plurality of node stations 18 and the head-end communications circuit 20 arranged in a ring network.

[0030] The intelligent head-end station 20 can accommodate incoming data from the various data networks 12. The incoming data is time multiplexed data on the digital transmission carrier and modulated onto the optical signal path 58.

[0037] The television data segments, consisting of over about 100 to about 200 television channels, are transmitted to the home and then re-transmitted to the next home

and so on until the TV signal format returns to the head-end equipment 20 where it is disregarded. To optimize bandwidth on the multi-access channel, 200 or 58, switched television channel equipment could be located at the Head-End 20 so as to provide specific television signals on customer demand.

[0039] Encoding algorithms are generated in the head-end equipment microcontroller 126 and are passed to each subscriber set-top box having authorized access to the premium channel. This encoding is automated with an update rate which is programmable by the user organization at the head-end station 20.

[0052] The head-end communications circuit 20 has an interface connectable to external communications data sources 12. For example, data is provided by a DBS television dish 102, a S & C Band satellite dish 104, a Ka Band LED Direct Space Communications link antenna 106 which feeds through a terminal box 107, a telephone cable 108 and a cable television cable 110. These sources are routed to the head-end communications circuit 20. The head-end circuit 20 converts these data sources into a high-speed digital data signal. This signal is conveyed through a transmit cable 26 and broadcast from a roof-top unit 22.

[0053] Referring to FIG. 7, shown is the head-end circuit 20 with a signal formatting circuit 120 for formatting the communications data sources into a multiplexed data signal 58. The signal formatting switch 120 takes the digitized television channels from numerous raw sources of single-way television such as DBS television 102 and S&C band satellite television 104 and selects a cross-section of channels and synchronizes their carriers for combination. The channels selected are a result of negotiations with communications service providers and the users of the photonic HAN 10. The synchronization switch 120 includes A/D devices internally where necessary to digitize an analog television channel.

Based on the above comments, Applicant respectfully believes currently amended claim 1 is in condition for allowance and respectfully requests that it, as well as the claims that depend from it, be passed to allowance.

Claims 2 and 3

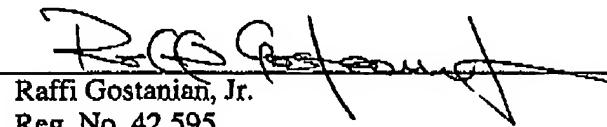
Claims 2 and 3 were amended to properly describe the relationship of the surfaces and circuits of the instant invention.

Terminal Disclaimer/Double Patenting

Terminal disclaimers were filed on 05/30/2006 to overcome the double patenting rejection. The fees for these disclaimers are presently paid. As such, Applicant respectfully believes the double patenting rejection should be lifted.

If the Examiner has any other matters which pertain to this Application, the Examiner is encouraged to contact the undersigned to resolve these matters by Examiner's Amendment where possible.

Respectfully Submitted,



Raffi Gostanian, Jr.
Reg. No. 42,595

Date: 05/15/2007

RG&Associates
1103 Twin Creeks
Allen, TX 75013

972.849.1310